

IN THE CLAIMS:

Claims 1-26 have been amended herein. All of the pending claims 1 through 1-26 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

Listing of the Claims:

1. (Currently amended) A flexible spinal needlecatheter assembly having an outside diameter sized so that withdrawal of the flexible spinal needlecatheter assembly from dura mater of a spine, subsequent to insertion of said assembly therethrough, permits the dura mater substantially to reseal a space formerly occupied by the assembly, said flexible spinal needlecatheter assembly comprising: a support needle having a first end defining a non-cutting piercing point, said support needle further comprising a hollow bore with an opening proximate said first end allowing access to said bore; and a flexible spinal-needlecatheter slidably mounted on a portion of said support needle such that said first end of said support needle protrudes from said flexible spinal-needle-catheter exposing said non-cutting piercing point and said opening.

2. (Currently amended) The flexible spinal catheterneedle assembly of claim 1, wherein said non cutting piercing point comprises a pencil-point tip.

3. (Currently amended) The flexible spinal needlecatheter assembly of claim 1, wherein said flexible needlecatheter assembly has a tip configured and arranged to provide a feedback signal to indicate dural puncture.

4. (Currently amended) The flexible spinal needlecatheter assembly of claim 1, wherein: a rear end of said support needle carries a support hub having a first attach structure; and a proximal end of said flexible needlecatheter carries a flexible needle catheter-hub having a

second attach structure configured to removably attach to the first attach structure carried by said support hub.

5. (Currently amended) The flexible spinal needle~~needle-catheter~~ assembly of claim 4, wherein the first and second attach structures comprise a LUER-LOCK.RTM. type connection.

6. (Currently amended) The flexible spinal needle~~spinal-catheter~~ assembly of claim 4, wherein said flexible needle~~needle-catheter~~ hub is configured for substantially unobtrusive attachment to a patient's skin by way of an intermediary adhesive element.

7. (Currently amended) The flexible spinal needle~~spinal-catheter~~ assembly of claim 4, wherein said flexible needle~~needle-catheter~~ hub is configured for attachment to medical fluid transfer equipment by an attachment structure to form a connection generally perpendicular to a direction of needle~~needle-catheter~~ insertion.

8. (Currently amended) The flexible spinal needle~~spinal-catheter~~ assembly of claim 1, wherein: a rear end of said support needle carries a support hub; and a proximal end of said flexible needle~~needle-catheter~~ carries a flexible needle~~needle-catheter~~ hub having a detach structure configured to detach the flexible needle~~needle-catheter~~ hub from the support hub.

9. (Currently amended) The flexible spinal needle~~spinal-catheter~~ assembly of claim 1, wherein: a proximal end of said flexible needle~~needle-catheter~~ carries a flexible needle~~needle-catheter~~ hub; and a rear end of said support needle carries a support hub having a detach structure configured to detach the flexible needle~~needle-catheter~~ hub from the support hub.

10. (Currently amended) The flexible needle~~spinal-catheter~~ assembly of claim 1, wherein said flexible needle~~needle-catheter~~ comprises a conduit formed from a first material and radially reinforced at a distal end by a second material.

11. (Currently amended) The flexible spinal needle ~~spinal catheter~~ assembly of claim 10, wherein said second material is selected from the group comprising a stainless steel wire and a ribbon spring.

12. (Currently amended) The flexible spinal needle ~~spinal catheter~~ assembly of claim 1, wherein said flexible needle ~~catheter~~ comprises a force absorbing structure to prevent kinking when the flexible needle ~~catheter~~ is bent.

13. (Currently amended) The flexible spinal needle ~~spinal catheter~~ assembly of claim 12, wherein said force absorbing structure comprises a ribbon spring.

14. (Currently amended) The flexible needle ~~spinal catheter~~ assembly of claim 12, wherein said force absorbing structure comprises a kink sleeve disposed on a portion thereof.

15. (Currently amended) The flexible spinal needle ~~spinal catheter~~ assembly of claim 1, further comprising a central stylet slidably mounted in said support needle to prevent the entry of matter through said opening proximate said first end.

16. (Currently amended) A flexible spinal needle ~~catheter~~ assembly for inserting a distal end of a flexible spinal needle ~~spinal catheter~~ through dura mater into a spine of a patient, said flexible spinal needle ~~catheter~~ assembly comprising: a support needle having a proximal end and a non-cutting piercing point at a distal end, said support needle configured to resist relative motion between said distal end of said flexible needle ~~catheter~~ and said non-cutting piercing point during insertion of said flexible spinal needle ~~catheter~~ assembly into the patient; wherein said flexible needle ~~catheter~~ is carried exterior to said support needle to expose said non-cutting piercing point when positioned for said inserting.

17. (Currently amended) The flexible spinal needle ~~eatheter~~-assembly of claim 16, wherein said flexible needle ~~eatheter~~ has an exterior diameter such that withdrawal of said flexible needle ~~eatheter~~ from said dura mater, subsequent to insertion of the flexible needle ~~eatheter~~-assembly therethrough, permits said dura mater substantially to reseal a space formerly occupied by said flexible needle~~eatheter~~.

18. (Currently amended) The flexible spinal needle ~~eatheter~~-assembly of claim 17, wherein: said proximal end of said support needle carries a support hub having a first attach structure; a proximal end of said flexible needle ~~eatheter~~ carries a ~~eatheter hub~~flexible needle hub having a second attach structure configured to interface in removable interference with said first structure carried by said support hub.

19. (Currently amended) The flexible spinal needle ~~eatheter~~-assembly of claim 16, wherein said flexible needle ~~eatheter~~ further comprises a radially reinforcing material located at a distal end of said flexible needle~~eatheter~~, said reinforcing material resisting peel-back of said flexible needle ~~eatheter~~ from said support needle.

20. (Currently amended) The flexible spinal needle ~~eatheter~~-assembly of claim 16, having a distal end of said assembly being constructed to provide a perceptible feedback signal when said distal end of said flexible needle ~~eatheter~~ penetrates said dura mater.

21. (Currently amended) The flexible spinal needle ~~eatheter~~-assembly of claim 16, characterized in said flexible needle ~~eatheter~~-hub further being configured for attachment to medical fluid transfer equipment having structure to form a LUER-LOCK.RTM. type connection.

22. (Currently amended) The flexible spinal needle ~~eatheter~~-assembly of claim 16, wherein a flexible needle ~~eatheter~~-hub is configured for attachment to medical fluid transfer

equipment by an attachment structure to form a connection generally perpendicular to a direction of flexible needle catheter insertion.

23. (Currently amended) The flexible spinal needle catheter assembly of claim 16, wherein said flexible needle catheter comprises a kink sleeve disposed on a portion thereof, said kink sleeve configured to prevent kinking of said flexible needle catheter when said flexible needle catheter is bent during use.

24. (Currently amended) A method for installing a flexible spinal needle spinal catheter assembly, said method comprising: providing a flexible spinal needle spinal catheter assembly having: a support needle with a piercing point at a distal end, said support needle having a proximal end with a support hub and an opening to allow flow from a point near the distal end thereof to said proximal end; a flexible needle catheter, having a proximal end with a flexible needle catheter hub, slidably mounted on said support needle to expose said piercing point, said flexible needle catheter having an outside diameter sufficiently small so that withdrawal of said flexible needle catheter from dura mater, subsequent to insertion of said flexible spinal needle catheter assembly therethrough, permits said dura mater substantially to reseal a space formerly occupied by said flexible needle catheter; wherein said flexible needle catheter hub and said support hub are configured to form a locking interference therebetween; and a central stylet slidably mounted in said support needle to prevent the entry of matter through said opening; using a conventional spinal needle technique to prepare skin of a patient at an injection site, apply local anesthetic, and insert a tip of said flexible spinal needle catheter assembly, said tip comprising said piercing point; removing said central stylet subsequent to receiving a feedback signal that puncture of said dura mater has occurred; checking for cerebrospinal fluid at said support hub; if no cerebrospinal fluid is observed, replacing said central stylet and further inserting said assembly until said tip is in an intrathecal space; once cerebrospinal is observed, unlocking said support hub and said flexible needle catheter hub, and while holding said support needle stationary, advancing said flexible needle catheter until said flexible needle catheter hub

contacts the skin; removing said support needle and checking for the presence of CSF at said flexible needle catheter-hub; connecting medical fluid transfer apparatus to said flexible needle catheter-hub; and securing said flexible needle catheter-hub to the skin.

25. (Currently amended) A flexible spinal needle ~~spinal catheter~~ comprising: a flexible needle catheter body comprising an elongated hollow tube, said flexible needle catheter-body configured to be slidably mounted on an exterior of a support needle; a kink sleeve disposed on a portion of said flexible needle catheter-body, said kink sleeve configured to prevent kinking of said flexible needle catheter-body, when said flexible needle catheter-body is bent during use.

26. (Currently amended) A flexible spinal needle ~~spinal catheter~~ comprising: a flexible needle catheter-body comprising an elongated hollow tube, said flexible needle catheter-body configured to be slidably mounted on an exterior of a support needle; a flexible needle catheter hub configured for attachment to medical fluid transfer equipment by an attachment structure to form a connection generally perpendicular to a longitudinal axis of said flexible needle catheter body.